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## Abstract

The objectives of this model program are (1) to develop language competence, (2) to acquire skills necessary in the process of learning, (3) to acquire attitudes and behavioral characteristics related to productive social involvement, and (4) to learn arts and skills associated with social interaction, transmission of information, and scientific advance. Participants are Mexican-American children, grades 1 to 3. The program recognizes the individualism of each child, encourages imitation of model behaviors, and provides verbal rewards and reinforcing experiences. Skills are taught simultaneously in functional settings to encourage generalization of learning. Interaction of the child with his environment and other people is facilitated by room organization, the variety of behaviors engaged in, and small group lessons. Teachers use the experiences and backgrounds of the children as instructional resources, although the staff structures and directs lessons. Models for parent involvement and psychological services are being developed. To introduce and maintain the program's innovative practices, program assistants are trained to serve as technical consultants to classroom teachers several hours each week. (DR)

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The Tucson Early Education Model

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## THE TUCSON EARLY EDUCATION MODEL

### Background

The Tucson Early Education Model developed from a cooperative project between the University of Arizona and Tucson School District No. 1. The project was designed originally to develop a different kind of early education experience for the Mexican-American children of Tucson who came largely from the poverty areas of the city. The model has been implemented in 68 classrooms, grades 1-3, in eight public schools of the metropolitan Tucson area. A fourth grade program is currently under development. It is expected that this instructional model can provide improved educational opportunities for all children. The model is now being elaborated and evaluated under the auspices of the Arizona Center for Early Childhood Education at the University of Arizona, Marie M. Hughes, Director.

### Rationale

Participation in the technical, social and economic life of contemporary America requires particular skills and abilities. These skills and abilities are frequently missing in the behavioral repertoires of individuals whose backgrounds fail to provide an adequate foundation for such learning. The content and procedures of this program are, therefore, based on the definition and specification of the following:

1. The skills and attitudes necessary to function in our technical and changing society.

2. The behavioral characteristics which populations of children bring to the educational situation.
3. The nature of the learning process.

The program procedures suggested by these considerations differ significantly from conventional curricula and modes of instruction for young children. If the requisite skills are to be developed, new program objectives and priorities must be established.

### Major Objectives

The major objectives of the Tucson Early Education Model can be classified into four categories:

1. Language competence. Language competence is one of the major technical skills of the culture to which the child must adapt. Critical information is transmitted principally in verbal form. This requires an acquaintance with a variety of linguistic labels, concepts, language forms, and an awareness of the function of language.

2. Intellectual base. The intellectual base is a collection of skills assumed to be necessary in the process of learning. These skills are as yet only partially recognized and defined and are usually not formally taught. Yet their importance in every learning process is becoming increasingly recognized. Some of the intellectual base skills involve the organization of stimuli in the environment. For example, ordering events

along certain dimensions such as size, color, and form, sequencing events according to time. Some intellectual base skills are more complex behaviors which are difficult to define: to be able to attend, to recall significant events, to be able to organize one's behavior toward specific goals, to evaluate alternatives, and to choose, to plan and to develop expectations, to be able to discriminate significant and important behaviors in others and to imitate.

3. Motivational base. By motivational base we mean a collection of attitudes and behavioral characteristics related to productive social involvement. These include positive attitudes toward school and toward the learning process, an appreciation for learning and a willingness to persist at learning tasks, an expectation of success and a willingness to change.

4. Societal arts and skills. Our culture is characterized by a wide range of arts and skills which constitute social interaction, information transmission, and scientific advance. Here we classify reading, writing, arithmetic, and other mathematical skills as well as the social skills of cooperation, planning and democratic process. Although certain arts and skills have traditionally constituted the primary focus of school curricula in the Tucson Early Education Model, they are only a small portion of the total program.

### Principle Components of the Program

1. Process Components. (a) Individualization. If we believe that children differ when they come into the educational environment; if we believe that children bring to the school different sets of attitudes and different sets of skills; if we actually believe that children must begin from where they are in order to be brought into the educational process, then it is clear that teachers must be able to individualize their teaching procedures. It is a characteristic of the organization of the Tucson Early Education Model that frequent opportunities are provided in the classroom for one-to-one adult-child interaction; for observation and recognition of individual differences in skill and interest. A variety of behavioral options are constantly available to the child providing opportunities to develop individual skills at individual rates.

(b) Imitation. Although imitation is widely recognized as a significant process by which the young child acquires behavior, it is seldom formally incorporated into classroom practice. In this program, frequent opportunities are provided for the modeling of behaviors that facilitate the continual development of skills and abilities valued and useful in a scientific and technically based society. The attention of children is directed toward the important and significant behaviors of others and they are encouraged and reinforced for imitating. The variation in behaviors in settings which the program provides encourages a wide range of skills.

Imitation is a particularly important process in the acquisition of language. Adults consciously and continuously work to model elaborated and extended examples of the child's own communications. The verbal forms of information-seeking, e. g., question asking and "thinking out loud," are modeled in demonstration and in adult-child interaction.

(c) Gratification. It is clear that rewarding and gratifying experiences are crucial elements in the learning process. Reinforcement plays an important role in classroom procedures. Classroom adults are trained in the techniques of social reinforcement including praise, attention, affection, and the like. Materials are chosen for their reinforcing value and activities are arranged so that they naturally result in reinforcing events. Every effort is made to ensure that the child experiences frequent gratification as a result of his behavior and skill acquisition. It is intended that, through these multiple reinforcing experiences, the child comes to regard learning as a satisfying experience and school as a source of significant and rewarding activities.

(d) Generalization. It is crucial to the success of an educational program that the skills which it teaches can be extended by the student to a variety of settings, objects, and events. Frequently in traditional programs the curriculum experiences are limited and opportunities to generalize skills, restricted. In this model, few skills are taught abstractly through rote-exercise or drill. A skill is always taught in a functional

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setting, and almost always in multiple functional settings. Concepts are illustrated by a variety of exemplars in several contexts, skills are extended across content areas within the classroom, and from the classroom to the natural environment of the child. Frequent field trips, walks, and visits to the childrens' homes, extend the learning environment and increase the array of experiences thus, facilitating the generalization of skills and abilities to his own environment. The child learns that his own neighborhood is a context of observations and learning.

(e) Orchestration. The various skills which reflect the four principle goals of the program (Language, Intellectual Base, Motivational Base, and Societal Arts and Skills) are seldom exercised independently of each other. For example, language competence can hardly be displayed independently of content and thought processes within the context of some societal skill. Almost all intellectual activities require some combination of these discreet behaviors. It is a central aspect of the Tucson Model that these skills are not taught separately, one from another. This is a significant departure from the linear quality of traditional program in which time segments devoted to individual skills follow each other in repetitious fashion. When skills are acquired in real and meaningful settings, it is possible to develop more than one skill simultaneously. A teacher organizing a small group of children in the activity of ice cream making, for example, will be teaching new words, the processes of proper order and

sequence of events, new concepts, new technical and social skills. In addition, the manner of her interaction with children plus the eating of the product will significantly influence the child's attitude towards the activity and the learning experience. The technique of simultaneously attending to, developing a variety of skills in children, of developing language, intellectual, motivational, and societal skills in a single context is defined as orchestration. In orchestration the teacher provides experience and instruction to the child in the process of interrelating his skills with respect to a variety of goals.

2. Organizational components. (a) Room arrangement. The physical environment of the room is organized into behavioral settings. It is arranged to facilitate interaction between the child and his environment, between the child and his peers, and between the child and adults in the classroom. Interest centers include materials which provide openended experiences making it possible for children differing in their levels of development to acquire skills through their interaction with the materials. Tables are arranged to facilitate small-group instruction and to make it possible for children to work independently in small groups. Classrooms consist of heterogeneous groups of children as a means of increasing opportunities for children to learn from peer models.

(b) Interaction. In the Tucson Early Education Model, most structured lessons are carried out with small groups in which the teacher,

or her aide, work with about five children at a time. This makes it possible for the teacher to respond to each individual child, utilize his current skills, and build upon and extend this base. In traditional classrooms, in which a great deal of instructional time is taken up by total group activity, it is easy for a child to "tune-out." In small group activities, on the other hand, the teacher can attend to each child every day, reinforce his participation, and help him toward the skills designated as program objectives. In a sense, this mode of organization provides a way of artificially reducing the child-to-adult ratio.

(c) Behavioral options. The organization and atmosphere of the Tucson Model Classroom provides the child with a variety of behavioral options. At least one period during the program day is open to self-selection activities in which the child has responsibility for the organization of his own activities around the availability of materials and space. During more structured activities, children are encouraged to verbalize, to handle materials, to participate in demonstrations, and to actively engage themselves in the learning process. The guiding principle is that in order to learn, the child must have the opportunity to engage in a variety of behaviors. It is the teacher's responsibility to selectively encourage those aspects of his repertoire which are congruent with her educational aims. Unless he is permitted to behave, the child cannot learn.

(d) **Adaptation to local populations.** The major objectives of the instructional program specify the development of skills and attitudes necessary to function in a technical and changing society. It is recognized, however, that in coping with their own environments, children develop other skills and attitudes which are quite functional and appropriate in their own homes and neighborhoods. Traditional programs, consisting of prescribed curriculum materials, usually ignore or attempt to eliminate these elements of the child's behavioral repertoire. Teachers trained in the use of the Tucson Early Education Model learn to use the experiential backgrounds of pupils to further instructional objectives. The child's home and neighborhood are viewed as instructional resources, thus avoiding the discontinuity of cultural values which often confront minority group children who are presented with a stereotyped middle-class curriculum.

(e) **Planning.** Within the open-ended context of this organization, lessons and experiences for the children are given definite structure and direction by the careful planning of the staff. The distribution of children in centers, the presentation and withdrawal of materials, the extension of learning experiences into selected aspects of the natural environment, all require careful planning for optimum utilization of time and resources.

(f) **Psychological Services and Parent Involvement.** At the present time the Tucson Early Education Model does not specify a specific program

for psychological services or parent involvement. It has become evident, however, that clearly defined models for these Follow Through components are needed. Models for both the parent involvement and the psychological services components are now being developed to provide an organization of activities and services which is consistent with the theoretical framework providing the rationale for this program approach.

### Implementation Procedures

A unique and crucial ingredient of this program is the inclusion of a change agent whose task is to introduce and maintain the program's innovative practices. The program assistant is a technical consultant who visits the classroom several hours each week. They are not supervisors in the usual sense, but communicate new techniques and ideas to the teacher, largely through demonstration within the on-going classroom activities. They have both a training and supportive role. They assist in planning and help the teacher in the tasks of coordinating activities and obtaining needed materials. For optimal functioning, the ratio of program assistants to teachers should be about one to five in the initial stages of program implementation.

Initial training of the program assistants (change agents) from communities using the Tucson Early Education Model, is provided in a six-week training institute during which trainees have opportunities to work in

demonstration classrooms which are set up specifically to provide opportunities to learn the program and to practice the role of the program assistant. This training is continuous throughout the year as field representatives from the Arizona Center for Early Childhood Education visit each community at frequent intervals to work with children and with teachers in classrooms, modeling the program assistant role for the local personnel. Field representatives also assist the local education agencies in their in-service programs and other aspects of local training.

The Tucson Early Education Model is a program constructed around the core of basic principles outlined above. Within the framework of these principles, a great deal of variation is possible. The structure of the program allows for the exploration of new ideas in curriculum material and organization. It is not a rigid structure imposed upon the classroom. Rather, it is a framework in which the teacher and aide working with the program assistant and field representative can evolve a program which reflects their own ideas, ingenuity, and creativity.